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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/631,067	08/01/2000	Hajime Kimura	SEL 201	6613

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EXAMINER	
ZEADE, BERTRAND	

ART UNIT	PAPER NUMBER
2875	

DATE MAILED: 12/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/631,067	KIMURA, HAJIME	
	Examiner	Art Unit	
	Bertrand Zeade	2875	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 March 2004* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *2,5-7,10-11,14-17,19-22 and 24-27* is/are allowed.

6)☒ Claim(s) *1,3,4,8,9,12,13 and 23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☑ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *050604* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 03/01/2004 have been fully considered but they are not persuasive.

2. Applicants contend that Besson does not disclose or suggest the claimed limitation of "a plurality of prism-shaped lenses each being contact with a lower surface of the light guide plate.

3. In response to Applicants arguments as shown in (fig. 12), light (4) is not next to the light guide plate (110), but the cooperation of the light with the light guide is not set forth. Therefore, any transparent plate which cooperates with the prism "90" can be considered a light guide plate.

Specification

1. Claim 1 is objected to because of the following informalities: In lines 3 the term "contact" is ambiguously used. Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1,3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beeson et al (U.S.5396350) in view of Ma (U.S.6352350).

Beeson ('350) discloses a backlighting apparatus employing an array of micro prisms having:

Regarding claim 1, as shown in (figs. 7-12) a front light comprising, a light source (4), light guide plate (110), and a plurality of prism-shaped lenses (90) each being contact with a lower surface of the light guide (6), wherein a cross-section of each of the prism-shaped lenses (90), in a plane perpendicular to the side surfaces thereof, has a shape of equally-sided trapezoid. A liquid crystal panel (8) under the prism-shaped lenses (28), wherein a plane defined by an upper base (92) of the equally-sided trapezoidal cross-section of each of the prism-shaped lenses (90) comes into contact with the lower surface of the light guide plate (6), and a obtuse angle or tilted angle (col. 17, lines 42-48) of the equally-sided trapezoidal cross-section and a critical angle for the total reflection of the prism-shaped lenses satisfy the relationship of 90 degrees<0>90 degrees +0 (col. 8, lines 16-31).

Regarding claim 3, a refractive index of each of the prism-shaped lenses (80/28) is equal to that of the light guide plate (col. 5, lines 43-68).

Regarding claim 4, each of the prism-shaped lenses (90/28) is made of the same material as the light guide plate (col. 5, lines 43-68).

Beeson ('350) does not teach a reflective LCD.

However, Ma ('350) discloses in (fig. 3) a reflective LCD (304) as applied in claim 1 above.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the backlighting apparatus of Beeson ('350) with the

reflective LCD as taught by Ma ('350), since the reflective LCD of Ma ('350) would provide the reflective effects that reflect the portion of the back. Hence, the reflector provides a controlled system in which most of the initially generated light is used to illuminate the LCD panel.

4. Claims 9,20,23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beeson ('350) in view of Ma ('350).

Regarding claim 9, as shown in (figs. 7-12) a light source (4), light guide plate (6/82), and a plurality of prism-shaped lenses (90/28) each being contact with a lower surface of the light guide (6/82), wherein a cross-section of each of the prism-shaped lenses (90), in a plane perpendicular to the side surfaces thereof, has a shape of equally-sided trapezoid, a plane defined by an upper base (92) of the equally-sided trapezoidal cross-section of each of the prism-shaped lenses (90/28) comes into contact with the lower surface of the light guide plate (6/28), and a obtuse angle or tilted angle (col. 17, lines 42-48) of the equally-sided trapezoidal cross-section and a critical angle for the total reflection of the prism-shaped lenses satisfy the relationship of 90 degrees<0>90 degrees +0 (col. 8, lines 16-31).

Regarding claim 20, a refractive index of each of the prism-shaped lenses (28) is equal to that of the light guide (col. 5, lines 43-68).

Regarding claim 23, the prism-shaped lenses (90) is made of the same material as the light guide plate (6).

Beeson ('350) does not disclose an optical sensor.

However, Ma ('350) discloses an optical sensor or polarization system (312) as applied to claim 9.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the backlighting apparatus of Beeson ('350) with the optical sensor or polarization system (312) as taught by Ma ('350), since the polarization system (312) of Ma ('350) would provide the device of Beeson with the polarization rotator. So that, the polarization in combination with the reflector provides a controlled system, wherein the second portion of light having the desired polarization state is incident on the polarizing system and is passed to the display panel in which most of the initially generated light is used to illuminate the LCD panel.

Allowable Subject Matter

1. Claims 2,5-8,10-11,14-17,19,21-22,24-27 are allowed.

2. The following is a statement of reasons for the indication of allowable subject matter: The prior art of record neither teaches nor suggest that in the axially-symmetric figure, an angle defined between a normal at a certain point on one of the opposing curved lines and a straight line connecting a crossing point between the opposing curved line and the shorter one in the pair of opposing parallel straight lines to the

certain point, is in the range of +3 degrees from a critical angle for the total reflection of each of the prism-shape lenses.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bertrand Zeade whose telephone number is 571-272-2387. The examiner can normally be reached on 9:30 AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on 571-272-2378. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Bertrand Zeade
Examiner
Art Unit 2875

Sandra O'Shea
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